

What is Claimed Is:

1. A method in a router, the method comprising:
identifying an active path connected to the router based on at least one active link connected
to the router;
monitoring prescribed attributes of the active path connected to the router;
5 detecting a change in at least one of the prescribed attributes of the connected active path;
and
outputting an update message, specifying the change, to a second router according to a
prescribed routing protocol.

2. The method of claim 1, wherein the identifying step includes:
associating the at least one active link connected to the router to the active path based on
determining that a prescribed destination is reachable by the at least one active link; and
storing in a topology table an entry that specifies the prescribed destination and a
corresponding at least one interface identifier for the at least one active link.

3. The method of claim 2, wherein the identifying step further includes:
associating a second active link connected to the router to the active path based on
determining that the prescribed destination is concurrently reachable by the one active link and the
second active link;
determining that the one active link and the second active link are configured for enabling
aggregation;
aggregating at least selected ones of the prescribed attributes of the one active link and the
second active link for the respective selected ones of the prescribed attributes of the active path; and
storing in the entry in the topology table the prescribed attributes of the active path, and
adding a second entry that specifies the prescribed destination, the interface identifier for the second
active link, and the prescribed attributes of the active path.

4. The method of claim 3, wherein the detecting step includes detecting aggregation of the

selected ones of the prescribed attributes of the one active link and the second active link for the respective selected ones of the prescribed attributes of the active path.

5. The method of claim 4, wherein the detecting step includes detecting a change in any one of delay, bandwidth, allowable transmission unit size, hop count, reliability, and load as the prescribed attributes.

6. The method of claim 1, wherein the detecting step includes detecting a change in any one of delay, bandwidth, allowable transmission unit size, hop count, reliability, and load as the prescribed attributes.

7. The method of claim 6, wherein the detecting step further includes obtaining information associated with at least one of the prescribed attributes of the at least one active link from an executable driver resource configured for controlling an interface configured for establishing the at least one active link.

8. The method of claim 7, wherein the information includes any one of the bandwidth, the reliability, the load and the allowable transmission unit size.

9. The method of claim 6, wherein the detecting step further includes determining the delay based on measuring a time between transmitting a data packet onto the one link and receiving a response to the data packet via the one link.

10. The method of claim 1, wherein the prescribed routing protocol is Enhanced Interior Gateway Routing Protocol (EIGRP) protocol.

11. A router comprising:
a plurality of interfaces configured for establishing respective active links with at least a second router,

a link associating resource configured for identifying an active path connected to the router based on at least one active link connected to the router;

a monitoring resource configured for monitoring prescribed attributes of the active path connected to the router, the monitoring resource detecting a change in at least one of the prescribed attributes of the connected active path; and

routing protocol resource configured for outputting an update message, specifying the change, to a second router according to a prescribed routing protocol.

12. The router of claim 11, further comprising a topology table configured for storing entries, each entry identifying a destination and whether the corresponding destination is reachable;

wherein the link associating resource is configured for associating the at least one active link connected to the router to the active path based on determining that a prescribed destination is reachable by the at least one active link, the link associating resource configured for storing in the topology table an entry that specifies the prescribed destination and a corresponding at least one interface identifier for the at least one active link.

13. The router of claim 12, wherein:

the link associating resource is configured for associating a second active link connected to the router to the active path based on determining that the prescribed destination is concurrently reachable by the one active link and the second active link, and determining that the one active link and the second active link are configured for enabling aggregation;

the link associating resource is configured for aggregating at least selected ones of the prescribed attributes of the one active link and the second active link for the respective selected ones of the prescribed attributes of the active path;

the link associating resource is configured for storing in the entry in the topology table the prescribed attributes of the active path, and adding a second entry that specifies the prescribed destination, the interface identifier for the second active link, and the prescribed attributes of the active path.

14. The router of claim 13, wherein the monitoring resource is configured for detecting aggregation of the selected ones of the prescribed attributes of the one active link and the second active link for the respective selected ones of the prescribed attributes of the active path.

15. The router of claim 14, wherein the monitoring resource is configured for detecting a change in any one of delay, bandwidth, allowable transmission unit size, hop count, reliability, and load as the prescribed attributes.

16. The method of claim 11, wherein the monitoring resource is configured for detecting a change in any one of delay, bandwidth, allowable transmission unit size, hop count, reliability, and load as the prescribed attributes.

17. The router of claim 16, wherein the monitoring resource is configured for obtaining information associated with at least one of the prescribed attributes of the at least one active link from an executable driver resource configured for controlling at least one of the interfaces

18. The router of claim 17, wherein the information includes any one of the bandwidth, the reliability, the load and the allowable transmission unit size.

19. The router of claim 16, further comprising a delay measurement resource configured for determining the delay based on measuring a time between transmitting a data packet onto the one link and receiving a response to the data packet via the one link, the delay measurement resource reporting the determined delay to the monitoring resource.

20. The router of claim 11, wherein the routing protocol resource is configured for outputting the update message according to Enhanced Interior Gateway Routing Protocol (EIGRP) protocol as the prescribed routing protocol.

21. A computer readable medium having stored thereon sequences of instructions for outputting an update message by a router, the sequences of instructions including instructions for:

identifying an active path connected to the router based on at least one active link connected to the router;

5 monitoring prescribed attributes of the active path connected to the router;
 detecting a change in at least one of the prescribed attributes of the connected active path;
and
 outputting an update message, specifying the change, to a second router according to a prescribed routing protocol.

22. The medium of claim 21, wherein the identifying step includes:
 associating the at least one active link connected to the router to the active path based on determining that a prescribed destination is reachable by the at least one active link; and
 storing in a topology table an entry that specifies the prescribed destination and a corresponding at least one interface identifier for the at least one active link.

23. The medium of claim 22, wherein the identifying step further includes:
 associating a second active link connected to the router to the active path based on determining that the prescribed destination is concurrently reachable by the one active link and the second active link;
 determining that the one active link and the second active link are configured for enabling aggregation;
 aggregating at least selected ones of the prescribed attributes of the one active link and the second active link for the respective selected ones of the prescribed attributes of the active path; and
 storing in the entry in the topology table the prescribed attributes of the active path, and adding a second entry that specifies the prescribed destination, the interface identifier for the second active link, and the prescribed attributes of the active path.

24. The medium of claim 23, wherein the detecting step includes detecting aggregation of the selected ones of the prescribed attributes of the one active link and the second active link for the respective selected ones of the prescribed attributes of the active path.

25. The medium of claim 24, wherein the detecting step includes detecting a change in any one of delay, bandwidth, allowable transmission unit size, hop count, reliability, and load as the prescribed attributes.

26. The medium of claim 21, wherein the detecting step includes detecting a change in any one of delay, bandwidth, allowable transmission unit size, hop count, reliability, and load as the prescribed attributes.

27. The medium of claim 26, wherein the detecting step further includes obtaining information associated with at least one of the prescribed attributes of the at least one active link from an executable driver resource configured for controlling an interface configured for establishing the at least one active link.

28. The medium of claim 27, wherein the information includes any one of the bandwidth, the reliability, the load and the allowable transmission unit size.

29. The medium of claim 26, wherein the detecting step further includes determining the delay based on measuring a time between transmitting a data packet onto the one link and receiving a response to the data packet via the one link.

30. The medium of claim 21, wherein the prescribed routing protocol is Enhanced Interior Gateway Routing Protocol (EIGRP) protocol..

31. A router comprising:

means identifying an active path connected to the router based on at least one active link connected to the router;

means for monitoring prescribed attributes of the active path connected to the router;

means for detecting a change in at least one of the prescribed attributes of the connected active path; and

means for outputting an update message, specifying the change, to a second router according to a prescribed routing protocol.

32. The router of claim 31, wherein the identifying means is configured for:
associating the at least one active link connected to the router to the active path based on determining that a prescribed destination is reachable by the at least one active link; and
storing in a topology table an entry that specifies the prescribed destination and a corresponding at least one interface identifier for the at least one active link.

33. The router of claim 32, wherein the identifying means is configured for:
associating a second active link connected to the router to the active path based on determining that the prescribed destination is concurrently reachable by the one active link and the second active link;
determining that the one active link and the second active link are configured for enabling aggregation;
aggregating at least selected ones of the prescribed attributes of the one active link and the second active link for the respective selected ones of the prescribed attributes of the active path; and
storing in the entry in the topology table the prescribed attributes of the active path, and adding a second entry that specifies the prescribed destination, the interface identifier for the second active link, and the prescribed attributes of the active path.

34. The router of claim 33, wherein the detecting means is configured for detecting aggregation of the selected ones of the prescribed attributes of the one active link and the second active link for the respective selected ones of the prescribed attributes of the active path.

35. The router of claim 34, wherein the detecting means is configured for detecting a change in any one of delay, bandwidth, allowable transmission unit size, hop count, reliability, and load as the prescribed attributes.

36. The router of claim 31, wherein the detecting means is configured for detecting a change in any one of delay, bandwidth, allowable transmission unit size, hop count, reliability, and load as the prescribed attributes.

37. The router of claim 6, wherein the detecting means is configured for obtaining information associated with at least one of the prescribed attributes of the at least one active link from an executable driver resource configured for controlling an interface configured for establishing the at least one active link.

38. The router of claim 37, wherein the information includes any one of the bandwidth, the reliability, the load and the allowable transmission unit size.

39. The router of claim 36, wherein the detecting means is configured for determining the delay based on measuring a time between transmitting a data packet onto the one link and receiving a response to the data packet via the one link.

40. The router of claim 31, wherein the prescribed routing protocol is Enhanced Interior Gateway Routing Protocol (EIGRP) protocol.